Title: ***"NIGERIA: Leveraging gas for economic growth"***

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A major outcome of an audit of Nigeria's petroleum sector undertaken with the support of the World Bank in 2001 was the realization that the development and utilization of natural gas, Nigeria's most abundant natural resource, needed to be undertaken in a more orderly and responsible manner than its crude oil resources. With a mono – product economy and a burgeoning population of 180 million people, the desire of the Government at that time was that the country could leverage on its 187 trillion cubic feet of natural gas (the 7th largest natural gas reserves in the world) to achieve major industrialization and perhaps diversify its economy beyond the petroleum sector.

As of 2001, the gas sector was largely undeveloped and most of the gas produced was flared. Issues such as third party access to sector infrastructure, pipeline ownership, tariff structure, gas transportation code were either largely absent or not treated in the legal framework which was largely written for oil and did not sufficiently address gas as a hydrocarbon. Gas supply was controlled by the national oil company, the Nigerian National Petroleum Corporation (NNPC), in partnership with a number of international oil companies. Gas transmission and distribution was also controlled by NNPC through its subsidiary, the Nigerian Gas Company. The regulator, the Department of Petroleum Resources, was ineffectual in the regulation the sector and effectively ceded policy making to the NNPC. Some gas - based industries such as the steel complex and an aluminium smelter plant had become comatose and wholesale gas offtake was limited to a few government – owned power plants. Gas pricing was regulated and considered uneconomic by producers, whilst the main offtakers frequently defaulted on payments for gas supplied. The two gas networks, located in the western and eastern parts of the country, were limited in coverage and unconnected to each other and often had operational issues due to gas quality, maintenance and pipeline sabotage. Fiscal incentives introduced by government in fact stimulated a slew of export projects, mainly for liquefied natural gas (LNG) or natural gas liquids (NGLs). However, the incentives effectively subsidized these projects from government's share of oil taxation and resulted in significant losses in government's share of economic rent from project revenues.

Sector reform

Nigeria was thus confronted with a paradox: an economy in desperate need for diversification, an abundant natural gas resource, but an unviable, risk replete domestic gas market. The government sought the assistance of the World Bank for the development of a strategy to assess the barriers inhibiting the development of the domestic gas sector and to develop a strategic plan that would help in mobilizing

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major private sector capital into the domestic gas sector in a manner consistent with its aspirations for participation in the global gas market. The *Strategic Gas Plan* resulting from this initiative recommended the adoption of comprehensive legal, regulatory, fiscal and pricing reforms.

The immediate activities for the implementation of the *Strategic Gas Plan* were the drafting and adoption of Nigeria's first gas policy document and the preparation of draft legislation, the "*Natural Gas Fiscal Reform Act*" (NAGFRA) that provided for taxation based on the "r" factor. This essentially allowed for the adjustment of operator and Government take respectively depending on the profitability or otherwise of the project in any given year in a manner that was sensitive to changes in the global price for gas.

A draft legislation for the regulation of the downstream gas sector, titled "*The Downstream Gas Bill*", was also prepared. The bill provided a framework for the licensing by a regulator of all participants in gas supply, transportation, distribution and network operation. It also provided for the unbundling of the Nigerian Gas Company into separate gas merchant and gas transportation companies and extensive provisions for the antitrust regulation of the sector, including a third party access regime and a network code. A transitional pricing framework recognized the importance of cost reflectivity and a fair rate of return for all participants in each segment of the gas chain.

These initiatives were collectively designed to stimulate investment in upstream gas development as well as providing a clear framework for investors in downstream projects, inclusive of gas infrastructure. To much disappointment, both the NAGFRA and the Downstream Gas Bill never became law as a result of intense industry lobby and both bills expired in parliament by 2006.

The chickens came to roost before long. Nigeria has been embroiled in full - blown energy crises since 2007. Effective electric power supply from the (government – owned) power plants has averaged 3,000MW per day since 2007, the immediate consequence of which is massive reduction of local industrial capacity and high cost off – grid power production throughout the economy. Economic growth is stunted and several industrial enterprises have shut down or relocated to neighbouring industries. To compound this crises, efforts by several global gas based industrial concerns to establish major export oriented gas industrial projects in the country were stunted by the non – availability of near term gas supply of any significance.

The Nigerian Gas Masterplan (NGMP)

Confronted with the spectre that its gas was committed to export projects with very little available for supply to the electricity sector or to domestic industrial projects, the government introduced the "*Nigerian Gas Masterplan*" (NGMP), a further initiative designed to complement the *Strategic Gas Plan.* The focal point of the NGMP is the *Gas Infrastructure Blueprint* for massive investment by the private sector in over 2000 kilometers of integrated gas gathering and transportation pipelines and gas processing plants or Central Processing Facilities (CPFs) within exclusive geographical areas. Upon completion, lean gas can be transmitted from any gas field to any location in Nigeria.

A National Domestic Gas Supply and Pricing Policy and the National Domestic Gas Supply and Pricing Regulations were issued as components of the NGMP. These instruments introduced a mandatory Domestic Gas Supply Obligation (DSO) on all licensees of petroleum concessions with proven gas reserves to make available a portion of their gas reserves for use in the domestic market as a condition for gas exports and the development of any other type of gas project. Non - compliance with the DSO will also attract significant penalties.

The National Domestic Gas Supply and Pricing Policy introduced a gas-pricing framework based on the ability of a strategic grouping of demand sectors to bear the gas price introduced for the sector. Hence, gas sale to the “Strategic Domestic Sector” which refers to a limited set of sectors that have a significant direct multiplier effect on the economy like power, domestic fertilizer, will be based on a cost of supply pricing model. Gas sale to the “Strategic Industrial Sector”, which includes domestic industries that utilize gas as feedstock in the production of value added products that are primarily destined for export or consumed locally like methanol, GTL and export fertilizer will be based on an end product pricing model, whilst gas sale to the “Commercial Sector” which comprises industries (such as cement) which use alternative fuels is indexed to the price of alternative fuel.

Strategic Gas Aggregator

A strategic domestic gas aggregator was established for the implementation of the National Domestic Gas Supply and Pricing Regulations. The aggregator, now known as the Gas Aggregation Company of Nigeria (GACON), manages the allocation of the DSO to all suppliers of gas and is the single point of contact for any purchaser of wholesale gas in Nigeria, thereby resolving an old problem in Nigeria whereby intending purchasers of gas are never sure where to start the process of gas supply.

Template Agreements for Wholesale Gas Supply

Some of the obstacles to gas utilization in Nigeria are the inability of the gas utilities and gas producers to negotiate a commercially sensible offtake agreement. A template agreement for wholesale gas supply in Nigeria and several collateral documents have been developed over the last three years in a cooperative effort between all industry players and the government.

The template GSA is expected to significantly minimise the duration of negotiations for gas sale to a few weeks in a process supervised by GACON. It seeks to institutionalize commercial and operational discipline between parties and to allocate the different risks attending gas development and offtake to the party that is best suited to bear them. The template incorporates the usual risk allocation mechanisms such as take or pay, shortfalls and off specification gas liabilities. Uniquely Nigerian solutions were developed to introduce some flexibility into traditional gas sales terms. For instance, a suite of remedies is prescribed for shortfall liabilities as opposed to the traditional right to recover shortfall gas at a discount. In addition, a seller may reduce its shortfall liability by supplying gas in excess of its daily maximum.

Credit risk mitigation

The poor credit history of the power sector and the weak balance sheet of government – owned power generation utilities required that their payment obligations under their respective gas sale contracts be backstopped by a credible financial guarantee. This has come in the form of the World Bank's Partial Risk Guarantee (PRG) product, which is a first for Nigeria. Essentially, the PRG programme requires that a local commercial bank issue a letter of credit in favour of the gas supplier of behalf of the power producer/gas purchaser which is triggered only in the event of a default in payment by the gas purchaser. In the event of a failure by the gas purchaser to reimburse the LC bank within an agreed period of time, the LC bank will have recourse to the World Bank which in turn will seek reimbursement from the Government of Nigeria.

Conclusion

Nigeria is beginning to send the correct signals to potential investors in its massive electric power and gas infrastructure programme.

The NGMP will provide a platform for Nigeria to make appropriate gas capacity additions to meet unprecedented domestic and global gas demand, maximize value from its abundant gas resources, create multiplier effects in the domestic economy whilst optimizing Nigeria's share in the high value export market.

The NGMP, DSO and the gas pricing reforms have been well received by prospective investors, incumbents and other stakeholders as adequate inducements for investment in the sector. The guarantee program of the World Bank provides the imprimatur of the institution's gilt-edged triple A rating behind gas sale transactions to the power sector whilst GACON will play a critical role as a moderator of commercial arrangements between buyers and suppliers of wholesale gas. Complementary reforms in the electric power sector initiated in 2005 and recently reaffirmed by the government (nigeriapowerreform.org) would appear to support the view that Nigeria is poised for a wave of investments in its gas sector and the possibility of a long overdue revolution in its industrial sectors.